TENTH CONSTRUCTION ENGINEERS CONFERENCE

BUREAU OF RECLAMATION ENGINEERING AND RESEARCH CENTER

1969 FEBRUARY 24-27 DENVER, COLORADO
The Chief Engineer and staff welcome you to the Tenth Construction Engineers’ Conference.

The program is directed toward a better appreciation of recent developments pertinent to effective performance in our construction operations. To that end, a selected group of outside speakers and in-house personnel is provided. Participation in the discussions is essential to the success of the Conference.

The proceedings will be recorded and mailed to you following publication.
Monday, February 24 - Morning Session

Time: 8:00 a.m. to 8:30 a.m.
Registration

Time: 8:30 a.m. to 8:40 a.m.
Welcoming address: B. P. Bellport

Time: 8:40 a.m. to 9:50 a.m.
Chairman: G. H. Johnson
Subject: Project Planning
Speakers: H. P. Dugan
"A Look Ahead"
K. K. Kober
"Safety of Dams Program"
G. G. Stamm, Assistant Commissioner, Legislation and Coordination, Washington, D.C.
"Foreign Activities"

Discussion
10-minute break

Time: 10:00 a.m. to 12:00 m.
Chairman: B. P. Bellport
Subject: Truth in Negotiations and Construction Contracts
Speakers: Stephen F. Haycock, Assistant General Counsel, General Accounting Office, Washington, D.C.
A. N. (Gus) Steiner, Vice President, and Donald K. Grant, Vice President and Secretary, Guy F. Atkinson Company, San Francisco, California
Gilbert A. Cuneo, Sellers, Conner & Cuneo, Attorneys and Counselors, Washington, D.C.

Discussion
Monday, February 24 - Afternoon Session

Time: 1:00 p.m. to 2:00 p.m.

Chairman: J. W. Hill
Subject: New Tools for Engineers
Speakers: C. F. Palmetter
"Construction Programming"
F. E. Swain
"Engineers and Modern Computing Systems"
W. B. McEnroe
"Water Resources Scientific Information"

Discussion

15-minute break

Time: 2:15 p.m. to 3:50 p.m.

Chairman: E. V. Lindseth
Subject: Augmentation of Fresh Water Supply
Speakers: J. R. Riter
"Water Requirements"
A. M. Kahan
"Atmospheric Water Resources Program"
H. J. Cohan
"Desalting"
Russell Freeman, Assistant Director, Colorado-Bonneville Office, Federal Water Pollution Control Administration, Department of the Interior, Denver, Colorado
"Water Quality Control"

Discussion
Tuesday, February 25 - Afternoon Session

Time: 1:00 p.m. to 2:00 p.m.

Chairman: H. S. Latham

Address by: Harry M. Philo, Philo, Maki, Moore, Pitts, Gifford & Cobb, Attorneys at Law, Detroit, Michigan
"The Interrelationship of Law with Construction Safety"

Discussion

15-minute break

Time: 2:15 p.m. to 3:50 p.m.

Chairman: F. H. Lippold

Subject: Rapid Excavation

Speakers: V. L. (Vic) Stevens, General Manager, Boyles Brothers Drilling Company, Salt Lake City, Utah
"Tunnel Moles - Present and Future"

R. C. Borden
"Blasting"

F. H. Lippold
"Shotcrete Support"

Discussion

Notes:

[Writing in the margin: "Who are these two men?"

[Annotations in the margin: "Ryland"

[Annotations in the margin: "Griffin - Reg. Engineer"
Wednesday, February 26 - Morning Session

Time: 8:15 a.m. to 9:15 a.m.

Chairman: C. F. Palmetier
Subject: Safety
Speakers: H. S. Latham
"Enforce Those Safety Standards!"
D. C. Young
"Tort Claims Arising from Contract Operations"
W. H. Taylor
"Safety and Reliability in Electric Services"

Discussion

Time: 9:15 a.m. to 10:15 a.m.

Chairman: B. P. Bellport
Address by: B. L. (Bert) Perkins, President, Morrison-Knudsen Company, Inc., Boise, Idaho
"Contracting 1969 - A 'People' Business"

Discussion

15-minute break

Time: 10:30 a.m. to 12:00 p.m. (Building 56 auditorium)

Chairman: B. P. Bellport

Combined Staff and Field Engineers' Session
Address by: Commissioner Floyd E. Dominy
All Regional Directors

Discussion
Tuesday, February 25 - Morning Session

Time: 8:15 a.m. to 12:00 m.

Chairman: R. A. Gullett

Subject: Federal Contracting Procedures

I. "General Provisions Standard Form 23-A"
   Speaker: B. P. King

II. "Truth in Negotiations"
    Moderator: J. R. Little

Panel: Stephen P. Haycock, Assistant General Counsel,
       General Accounting Office, Washington, D.C.
       C. F. Palmetier
       C. L. Tyler
       L. R. Thygesen

Discussion
Wednesday, February 26 - Afternoon Session

Time: 1:00 p.m. to 2:35 p.m.

Chairman: H. G. Arthur

Subject: Environmental Control and Public Relations

Speakers:

N. B. Bennett, Assistant Commissioner, Power and Engineering, Washington, D.C.
"General Policies of Federal Agencies"

Mitchell A. Wilder, Member, Commissioner's Board of Artistic Consultants, and Director, Amon Carter Museum of Western Art, Fort Worth, Texas
"General Artistic Improvements to Structures and Facilities"

Otto Peterson, Assistant to Commissioner, Information, Washington, D.C.
"Practical Application at Grand Coulee"

Discussion

15-minute break

Time: 2:50 p.m. to 3:50 p.m.

Chairman: B. P. Bellport

Address by: J. T. Hall, Jr., Director of Survey and Review, Department of the Interior, Washington, D.C.
"Where will Administrative Policies Lead Us in the Future?"

Discussion

Time: 6:00 p.m.

Social Hour and Banquet - Albany Hotel
Thursday, February 27 - Morning Session

Time: 8:15 a.m. to 9:45 a.m.

Chairman: W. I. Gardner

Subject: Jobsite Investigations

I. "Investigations and the Construction Engineer"
   Speaker: W. I. Gardner

II. Panel discussion - "Field Investigations to Meet Laboratory, Design, and Construction Needs"
   Speakers: W. G. Holtz
   A. T. Lewis
   F. C. Walker
   R. R. Rising

Discussion

15-minute break

Time: 10:00 a.m. to 11:30 a.m.

Chairman: R. A. Guillet

Subject: Miscellaneous Problems

Time: 11:30 a.m.

Closing Remarks
B. P. Bellport
Washington Office Representatives
Thursday, February 27 - Afternoon Session

Unassembled for conduct of business by field personnel

Time: 1:00 p.m. to 3:45 p.m.

Exhibits of Current Research Activities and New Construction Materials - Building 56 (see separate handout)

Exhibit 1 - Evaporation Reduction - Field Studies
Exhibit 2 - Hydraulic Model Studies - Grand Coulee
Third Powerplant
Exhibit 3 - Research Studies of Soil Pressures on Pipe
Exhibit 4 - Plastic Pipe and Other New Materials
Exhibit 5 - Vibration Test System
Exhibit 6 - Electric Power Regulations and Research Studies

Time: 2:00 p.m. to 3:00 p.m.

ADP - Demonstration of remote time-sharing computer terminals, Room 224A, Building 56

Film showings in auditorium, Building 56

Time: 1:30 p.m. to 2:00 p.m.

"Rivers in the Sky" - Weather modification, designed to produce snow and rain for thirsty areas by artificial means. Explains in simple, graphic outline the importance and problems of this work.

Time: 2:10 p.m. to 2:40 p.m.

"Great River" - How the Columbia River System has been put to work to produce electric power, irrigation, flood control, navigation, and protection of fish and wildlife.

Time: 2:50 p.m. to 3:20 p.m.

"Miracle of the Missouri" - Multipurpose work of the Bureau of Reclamation and Army Corps of Engineers on the Missouri and its tributaries.
## Field and Regional Personnel

### Region 1

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>H. T. Nelson</td>
<td>Regional Director</td>
<td>Region 1</td>
</tr>
<tr>
<td>R. H. Harris</td>
<td>Regional Engineer</td>
<td>Region 1</td>
</tr>
<tr>
<td>B. L. Mendenhall</td>
<td>Chief, Engineering and Construction Division</td>
<td>Columbia Basin (Construction Field Branch)</td>
</tr>
<tr>
<td>J. R. Granger</td>
<td>Construction Engineer</td>
<td>Grand Coulee Third Powerplant</td>
</tr>
<tr>
<td>H. L. Fink</td>
<td>Chief Field Engineer</td>
<td>Grand Coulee Third Powerplant</td>
</tr>
<tr>
<td>B. H. Walter</td>
<td>Project Construction Engineer</td>
<td>Chief Joseph Dam</td>
</tr>
<tr>
<td>D. W. Hansen</td>
<td>Project Construction Engineer</td>
<td>Wild Horse Dam</td>
</tr>
<tr>
<td>F. J. O'Connor</td>
<td>Supervisory Civil Engineer</td>
<td>Baker</td>
</tr>
<tr>
<td>E. J. Brannon</td>
<td>Supervisory Civil Engineer</td>
<td>Chief Joseph Dam-Mason Unit</td>
</tr>
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### Region 2

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<tr>
<th>Name</th>
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<tbody>
<tr>
<td>R. J. Pafford, Jr.</td>
<td>Regional Director</td>
<td>Region 2</td>
</tr>
<tr>
<td>W. J. McCrystal</td>
<td>Regional Engineer</td>
<td>Region 2</td>
</tr>
<tr>
<td>G. R. Rollin</td>
<td>Project Construction Engineer</td>
<td>CVP - Auburn-Folsom South Unit</td>
</tr>
<tr>
<td>D. R. Alexander</td>
<td>Chief, Office Engineering</td>
<td>CVP - Auburn-Folsom South Unit</td>
</tr>
<tr>
<td>M. R. Johnson</td>
<td>Project Construction Engineer</td>
<td>CVP - San Luis Unit</td>
</tr>
<tr>
<td>R. J. Towsell</td>
<td>Assistant Project Construction Engineer</td>
<td>CVP - San Luis Unit</td>
</tr>
<tr>
<td>W. C. Hart</td>
<td>Engineer in Charge</td>
<td>CVP - Sacramento Valley</td>
</tr>
<tr>
<td>J. D. Carter</td>
<td>Project Construction Engineer</td>
<td>Washoe</td>
</tr>
<tr>
<td>C. D. Lawrence</td>
<td>Project Manager</td>
<td>Klamath</td>
</tr>
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### Region 3

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<tr>
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<tbody>
<tr>
<td>A. B. West</td>
<td>Regional Director</td>
<td>Region 3</td>
</tr>
<tr>
<td>J. K. Shankland</td>
<td>Regional Engineer</td>
<td>Region 3</td>
</tr>
<tr>
<td>T. H. Moser</td>
<td>Project Manager</td>
<td>Yuma</td>
</tr>
<tr>
<td>L. H. King, Jr.</td>
<td>Project Engineer</td>
<td>Colorado River Front Work and Levee System</td>
</tr>
<tr>
<td>A. K. Dolnyuk</td>
<td>Chief, Design and Construction Division</td>
<td>Parker-Davis and Pacific Northwestern-Pacific Northwest Interie - Med Construction Office</td>
</tr>
<tr>
<td>D. H. Larsgaard</td>
<td>Construction Engineer</td>
<td>Pacific Northwest-Pacific Southwest Interie - Med Construction Office</td>
</tr>
<tr>
<td>G. A. Samson</td>
<td>Construction Engineer</td>
<td>Southern Nevada Water</td>
</tr>
<tr>
<td>C. F. Burdy</td>
<td>Location Engineer</td>
<td>Pacific Northwest-Pacific Southwest Interie - Transmission Lines</td>
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### Region 4

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<tbody>
<tr>
<td>D. L. Crandall</td>
<td>Regional Director</td>
<td>Region 4</td>
</tr>
<tr>
<td>K. L. Powers</td>
<td>Regional Engineer</td>
<td>Region 4</td>
</tr>
<tr>
<td>A. S. D'Alessandro</td>
<td>Construction Engineer</td>
<td>Central Utah</td>
</tr>
<tr>
<td>J. D. Seery</td>
<td>Project Construction Engineer</td>
<td>CRS - Currenct Unit</td>
</tr>
<tr>
<td>P. A. Lansberry</td>
<td>Construction Engineer</td>
<td>CRS - Glen Canyon Unit</td>
</tr>
<tr>
<td>M. C. Wren</td>
<td>Project Construction Engineer</td>
<td>Lyman</td>
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### Region 5

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<tbody>
<tr>
<td>L. W. Hill</td>
<td>Regional Director</td>
<td>Region 5</td>
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<tr>
<td>A. A. Lewis</td>
<td>Regional Engineer</td>
<td>Region 5</td>
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<tr>
<td>G. C. Crane</td>
<td>Project Construction Engineer</td>
<td>Canadian River</td>
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<tr>
<td>B. Levine</td>
<td>Project Construction Engineer</td>
<td>Navajo Indian Irrigation</td>
</tr>
<tr>
<td>D. E. Cannon</td>
<td>Project Construction Engineer</td>
<td>San Juan-Chama</td>
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### Region 6

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<tbody>
<tr>
<td>H. E. Aldrich</td>
<td>Regional Director</td>
<td>Region 6</td>
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<tr>
<td>T. E. Mann</td>
<td>Regional Engineer</td>
<td>Region 6</td>
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<tr>
<td>W. E. Markus</td>
<td>Project Construction Engineer</td>
<td>MRB - Yellowtail Unit</td>
</tr>
<tr>
<td>A. H. Whitmore</td>
<td>Construction Engineer</td>
<td>MRB - South Dakota, Nebraska, Iowa</td>
</tr>
<tr>
<td>E. A. Lundberg</td>
<td>Project Manager</td>
<td>MRB - Missouri-Souris</td>
</tr>
<tr>
<td>E. H. Jeffers</td>
<td>Chief, Field Engineering Division</td>
<td>MRB - Garrison Diversion Unit</td>
</tr>
<tr>
<td>G. R. Hanson</td>
<td>Chief, Engineering Division</td>
<td>Upper Missouri</td>
</tr>
<tr>
<td>A. Z. Greenlaw</td>
<td>Construction Engineer</td>
<td>MRB - Oker Dam Modifications</td>
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### Region 7

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<tr>
<td>J. M. Inglese</td>
<td>Regional Director</td>
<td>Region 7</td>
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<tr>
<td>C. W. Griffin</td>
<td>Regional Engineer</td>
<td>Region 7</td>
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<tr>
<td>H. E. McDaniel</td>
<td>Construction Engineer</td>
<td>Pryington-Arkansas</td>
</tr>
<tr>
<td>W. H. Hedges</td>
<td>Project Manager</td>
<td>MRB - Kansas River</td>
</tr>
<tr>
<td>J. T. Pyte</td>
<td>Construction Engineer</td>
<td>MRB - North Platte River</td>
</tr>
<tr>
<td>G. R. Highley</td>
<td>Project Manager</td>
<td>South Platte River</td>
</tr>
<tr>
<td>P. C. Rousa</td>
<td>Chief, Construction Division</td>
<td>South Platte River</td>
</tr>
<tr>
<td>H. N. Phillips</td>
<td>Assistant Construction Engineer</td>
<td>MRB - Glen Elder Unit</td>
</tr>
</tbody>
</table>
DENVER AND WASHINGTON OFFICE PARTICIPANTS

Arthur, H. G.
Associate Chief Engineer
Bellow, B. P.
Chief Engineer
Bennett, N. B., Jr.
Assistant Commissioner, Power and Engineering, Washington, D.C.
Borden, R. C.
Construction Supervision Branch, Division of Construction
Cohan, H. J.
Chief, Water Conservation Branch, Division of Research
Dominy, Floyd E.
Commissioner
Dungan, H. P.
Chief, Division of Project Investigations
Gardner, W. I.
Chief, Division of Engineering Geology
Gullette, R. A.
Chief Construction Engineer
Hill, J. W.
Chief Designing Engineer
Holtz, W. G.
Assistant Chief Research Scientist, Division of Research
Johnson, G. H.
Assistant Chief Engineer
Kahan, A. M.
Chief, Office of Atmospheric Water Resources
King, B. P.
Regional Solicitor, Denver Region
Kooper, K. K.
Chief, Division of Irrigation Operations
Latham, H. S.
Chief Safety Engineer
Lewis, A. T.
Assistant Chief Designing Engineer
Lindseth, E. V.
Technical Assistant Chief Engineer
Lippold, F. H.
Construction Supervision Branch, Division of Construction
Little, J. R., Jr.
Attorney Advisor, Contracts and Labor Division, Office of Regional Solicitor, Denver Region
McBirney, W. B.
Chief, Office of Engineering Reference
Mermel, T. W.
Assistant to the Commissioner, Research; and Chief, Division of General Engineering, Washington, D.C.

Palmetter, C. F.
Assistant Chief Construction Engineer
Peterson, Otis
Assistant to the Commissioner, Information, Washington, D.C.
Rising, R. R.
Head, Pumping Plant Structures Section, Structural and Architectural Branch, Division of Design
Riter, J. R.
Technical Advisor
Stamp, G. G.
Assistant Commissioner, Legislation and Coordination, Washington, D.C.
Swain, F. E.
Chief, Division of Data Processing
Taylor, W. H.
Chief, Division of Power Operations
Thygesen, L. R.
Head, Contract Section No. 1, Contract Administration Branch, Division of Construction
Tyler, C. L.
Chief, Contract Administration Branch, Division of Construction
Walker, F. C.
Head, Earth Dams Section, Dams Branch, Division of Design
Young, D. C.
Assistant Regional Solicitor, Water and Power, Office of Regional Solicitor, Denver Region
Young, K. K.
Assistant Chief, Division of General Engineering, Washington, D.C.
Conference Committee

Fitz, H. L. - Chairman
Lippold, F. H.
Carlson, D. A.
Waitress:
Hands full of coffee
Sugar sucked in her

"Do you even fu*king know?"

Wait - you couldn't care

Flee - remove legs one by one
Still grunts at command
With no legs - no grip

Conclusion - Flee w/o legs is easy.
Notes

The text on the page is illegible due to the handwriting.
Four Presidents, eleven Congresses, and more than twenty years have come and gone since the United States began its foreign aid program. Yet today a great many Americans still have a cloudy picture of what foreign aid is, how it works, or why we provide it.

Some believe mistakenly that our aid program is designed primarily to keep unfortunate countries afloat which cannot help themselves. This was true ten years ago, but today most of our economic aid is for long-term development. The countries which receive most of the United States aid, now invest in development $5 of their own money for every dollar they get from the outside.

Some believe our aid programs depend on United States food surpluses to prevent mass famines as the world food-population ratio worsens. Food aid from the United States and other surplus food producers can fill a gap temporarily. However, it is an obvious fact that this country cannot feed the world despite its technological advancements and high production capacity. Instead, great efforts are being applied throughout the developing world to assist those countries to increase their own food production. The efforts are focused on better use of water, improved seeds, increased use of fertilizers, more effective agricultural policies, etc. In some areas yields of rice, wheat, and other crops have doubled or even tripled as a result of these programs.

The impression is widely held that the United States is carrying more than its share of the aid burden. From the standpoint of the proportion of national income diverted to foreign aid, the United States is in seventh place among the nineteen non-Communist countries which provide economic assistance to developing nations. Countries devoting a greater share of their national income to aid than the United States are France, Portugal, Australia, The Netherlands, West Germany, and Belgium. Japan and the United Kingdom are providing about the same proportion of their national incomes as we are.

Among other misconceptions is that the aid program spreads over the entire globe. United States economic assistance is highly concentrated; 86% of U. S. aid goes to fourteen countries. Five of these are in Latin America, eight in Asia, and one in Africa.

The biggest misconception about foreign aid is that we send money abroad. Foreign aid consists of American equipment, raw materials, expert services, and food. We provide fertilizers for Asia's farm, cement for irrigation ditches, generators for new powerplants, steel for railways, paper for textbooks, and DDT for Malaria control. Above all, we send people: American engineers, agronomists, teachers, economists, geologists, and doctors who
can train, advise, and assist the local people to do their jobs. Ninety-three percent of AID funds are spent in the United States to pay for these things.

This brings us to the Bureau of Reclamation's role in the broad picture of foreign aid. We are occasionally asked, and logically so, why the Bureau--whose operations are restricted primarily to the 17 western United States--is working in nine foreign countries. Although several public laws could be cited which authorize our overseas work, suffice it to say that the Foreign Assistance Act empowers the Secretary of State to utilize the services of other Federal agencies to carry out assistance to developing countries. Most of our overseas work is performed on behalf of the Agency for International Development, which is a semi-autonomous arm of the Department of State. However, there is also Congressional authority for us to enter into direct contracts with other governments to provide technical assistance and training if the requesting country pays all costs. It has been said many times before, and is worth repeating, that Reclamation's foreign activities are funded from sources other than its own appropriations. There are only two exceptions to this:

1. Occasional participation in international conferences or seminars which are beneficial to the Bureau from the standpoint of keeping abreast of advancements in worldwide water resource technology.

2. According appropriate services and courtesies to the many foreign tourists and accredited visitors who stop in at your projects and offices. This comes under the category of courtesy to the public even though they are not a part of the American public.

Now let's take a brief look at the size and scope of the Bureau's current foreign program. As most of you are actively participating in foreign training, you know that it is large and that we have been involved in it for many years. We in Washington are aware of the disruption to your day-to-day operations which this element of foreign activities sometimes causes. Nevertheless, we have tangible evidence that it is a very effective facet of the program--I suspect that the U. S. taxpayer is receiving greater dividends for each dollar invested in training than for any other element of the foreign aid effort. I want to take this opportunity to thank you sincerely for your invaluable assistance and ask you to keep up the good work. At present there are about 50 nationals from 15 different countries engaged in programs of training or official observation at Bureau installations.

Last year we trained about 185 specialists from abroad. These numbers do not include the 3 or 4 hundred foreign tourists and accredited visitors which you receive each year.

The Bureau overseas technical assistance responsibilities continue at a high level. At present, we have a total of 89 specialists abroad--more than half
of which are in Thailand. There are 20 in Afghanistan, 8 in Korea, 5 in Brazil, 3 in Taiwan, 2 in the Philippines, and one each in India, Singapore, and Panama. Construction of Toa Vaca Dam in Puerto Rico, scheduled to begin very soon, is not included in discussions of the foreign program. The Chief Engineer is handling the assignment of a six-man team for Toa Vaca work essentially the same as a domestic project.

As many of you know, the Bureau's foreign work is mostly project planning. Our current assignment in Taiwan is a notable exception. I am not going to describe the nature of our activities in each country. However, since the investigation in the Lower Mekong Basin of Thailand and Laos is our largest operation from the standpoint of personnel and money inputs; it seems appropriate to comment on it briefly. Our work there is devoted primarily to the proposed Pa Mong Project. The Pa Mong Dam on the Mekong River and companion dams on adjacent tributaries would be located about 18 miles upstream from Vientiane, Laos. The river is the boundary between Thailand and Laos. These structures would impound a reservoir which we believe would have a capacity almost triple that of Lake Mead. Even though the Mekong is the largest river in Southeast Asia and the 10th largest in the world, there is now no control whatsoever on the main stem. Pa Mong would be a key river control structure of the Lower Mekong Basin. Downstream the Mekong River flows through Cambodia and Vietnam on its way to the South China Sea.

Although our studies are not far enough advanced to establish exact Pa Mong dimensions, the Chief Engineer's staff has recently completed reconnaissance designs and estimates of the dam and powerplant for the purpose of an interim report issued last month. The main dam is planned as a concrete gravity structure about 325 feet high, with a crest length of about 5,300 feet. As most of the crest would be required for spillway to pass the flood flows of that tremendous river, we anticipate that the powerplant will be located generally parallel to and on the Thai side of the river in a layout similar to the Grand Coulee Third Powerplant. The powerplant could have an initial installed capacity of 3,000 megawatts, with provision for ultimate expansion to as much as 12,000 megawatts. The project ultimately could supply irrigation water for up to 5 million acres of land in Thailand and Laos. Our immediate objective in this investigation is to complete a Stage I feasibility report in January 1970. Stage I of the project would consist of the dams, powerplant, transmission system, and a comparatively small irrigation component at least sufficient to relocate people now living in the reservoir area.

There is much optimism in the State Department, and among the Lower Mekong Basin riparian countries, that the Pa Mong Project will be constructed in the not-too-distant future. It is being seriously considered as a development to help fill the economic void which will occur in Southeast Asia when the Vietnam conflict ends. In order to understand the importance of Asia and the Pacific in long-range plans of the United States, it must be recalled that two-thirds of the people of the world live there. Aside from Vietnam, a remarkable transformation has occurred in Southeast Asia since World War II; a transformation encompassing such basic elements as economic and social
progress, increased political stability, and the expansion of political democracy. Moreover, substantial success has been achieved in repelling Communist aggression and subversion, and there have been conspicuous failures of the Chinese Communist regime in tending to the needs of its own people. These developments, in combination, have contributed to rising confidence in the future on the part of the free nations in that part of the world. Obviously, the United States has vast interests in the political, security, and economic aspects of Southeast Asia.

Now I will attempt to peer into the future of the Bureau's foreign activities program. Would you believe that personnel ceilings are a major problem in overseas work as well as here at home? For that reason we are undergoing modest retrenchment in some of our existing overseas staffs. The exceptions are those programs financed from sources other than AID grants, such as our loan-funded investigations in Brazil. Our present five-man Brazil team is being built up to a total strength of 14—recruitment is essentially complete. Similarly, the Afghanistan team will be increased if the terms of an AID loan agreement are ever fully complied with by the Afghans. The loan is for purchase of construction equipment and technical assistance related to actual development of 32,000 acres for which the Bureau team has completed detailed plans. The proposal has been pending for so long that I hesitate to predict when, if ever, it might materialize. If the various conditions precedent to disbursement of AID loan funds are finally met, we will be looking for about 8 men for preparation of construction drawings and performing inspection and contract administration.

The World Bank has made Bureau of Reclamation technical assistance to the Government of India a condition of its loan to India for a Second Stage Flood Control and Drainage Project in the States of Punjab and Haryana. Our technical assistance will consist of a study of a vast area to identify promising agricultural investment opportunities. Much of the area is plagued with high water tables and the associated salinity problems.

We anticipate that an advance reconnaissance team will go to India about April 1. The team will consist of a planning engineer, general engineer, groundwater hydrologist, an economist, and a soil scientist. During a period of 4 to 6 weeks, the advance reconnaissance team will evaluate the quantity, quality, and nature of existing data and define the scope of work, time schedule, and staffing requirements for later phases of the study.

Shortly after the advance reconnaissance is completed, we expect to field a team of about a dozen men to begin the main reconnaissance. That phase will be followed by feasibility studies expected to span two years. The team will be headquartered in Chandigarh which is about 170 miles north of New Delhi.

As our 3-man advisory group on Tsengwen Dam design and construction in Taiwan has more responsibilities than it can handle, we have been requested to add a structural design engineer and an engineering geologist to the team. The Chief Engineer is on the lookout for men with exactly the right qualifications for those assignments. Also in Taiwan, an agency known as the
Joint Commission on Rural Reconstruction has asked for our concurrence in a proposal for the Bureau to assist in establishing an irrigation research center for investigations of land improvement, better water management practices, and advancements in engineering designs of irrigation systems. Thus, although the elapsed time between an initial proposal of this nature and the actual implementation is usually many months, we may ultimately have a second team in Taiwan.

Next month we will begin a different type of foreign project. It will consist of a desk study and evaluation of the water resources of the Near East countries--Lebanon, Israel, Jordan, Saudi Arabia, Egypt(UAR), Kuwait, and Iraq. The study will be conducted in Washington and will be based on data now available. The objective will be to identify highly promising and immediate development opportunities rather than speculative, far-term potentials. Negotiations have been underway for some time among personnel of AID and Interior to finalize arrangements for this study. Two weeks ago it became apparent to all concerned that if the study is to be implemented promptly and effectively, it should be turned over to Reclamation. This has now been done and we expect to have approximately 10 men assigned to the job very shortly. Some of the group will work only part time on that assignment. A report will be produced for the State Department in 6 months. The Near East water resource study is part of a broad scale quest for avenues to help engender peace in that part of the world. It is widely recognized that cooperative development of water resources among neighboring countries is often an effective way to ease international tensions.

Another request for technical assistance which we have been asked to consider is assignment of 3 men to the Dominican Republic. A major hurdle in connection with this one is the need for specialists who can speak and understand Spanish. The request is for an irrigation O&M advisor for 6 months, a soil scientist for 3 months, and a hydrologist-sedimentation specialist for 1 month.

The Organization of American States has made preliminary inquiry as to the availability of a senior Bureau hydrologist and a high-level resource economist to serve for 3 increments of about 1 month each on the Santa Lucia River Basin studies in Uruguay. AID has asked us to assist in locating 3 irrigation engineers who would be willing to transfer to AID for assignment in Laos. Also, from time to time, the World Bank and various agencies of the United Nations request us to supply specialists for short-term assignments in various parts of the world.

All this discussion undoubtedly conveys to you that there are many and varied opportunities for foreign employment. We cannot forecast with precision what our total overseas involvement will be over the next year or two, but we are confident that it will be substantial. By the time I get back to Washington, the Division of Foreign Activities may have on my desk a proposal that I have not mentioned here because it reached us during my absence. Requests pop "out of the blue" frequently and suddenly.
Before leaving the subject of foreign employment I want to comment on reemployment of the men now serving on our overseas team. First, I commend the Regional Directors, the Chief Engineer, and others for their efforts and successes in reinstating our men in the domestic program as they complete their overseas tours. This is an essential component of the foreign program because many of the specialists serving abroad are young men in the prime of their careers. Their career development must be respected and we undoubtedly will need them at one place or another in the Bureau's organization. In their overseas jobs they have, in some cases, shouldered heavier responsibilities than they would have had at home; there has been no one near at hand to guide them every step of the way and advice has not been readily available by telephone. As a result, they are well seasoned and better men than they were when they left the domestic program. Of course, all of us can point to a few who have been spoiled, just as we all can identify a few misfits who have emerged from any program. It seems to be human nature to remember more clearly the unfavorable rather than the favorable. Nevertheless, most of the graduates of the foreign program have had their qualifications enhanced under a variety of conditions—not all of which have been pleasant.

Instead of attempting to describe orally the people, cultures and conditions where our teams are working abroad, I will rely on the adage that one picture is worth a thousand words. I will conclude my presentation here today with a few slides.